

Dr. Hutton, the earliest of our philosophical geologists, eloquently observes, in his "Theory of the Earth," that the solid earth is everywhere wasted at the surface. The summits of the mountains are necessarily degraded. The solid and weighty materials of these mountains have everywhere been carried through the valleys by the force of running water. The soil which is produced in the destruction of the solid earth is gradually transported by the moving waters, and is as constantly supplying vegetation with its necessary aid. This drifted soil is at last deposited upon some coast, where it forms a fertile country. But the billows of the ocean again agitate the loose material upon the shore, wearing away the coast with endless repetitions of this act of power and imparted force; the solid portion of our earth, thus sapped to its foundations, is carried away into the deep and sunk again at the bottom of the sea whence it had originated, and from which sooner or later it will again make its appearance. We are thus led to see a circulation of destruction and renewal in the matter of which the globe is formed, and a system of beautiful economy in the works of Nature. Again, discriminating between the ordinary and scientific observer, the same writer remarks, that it is not given to common observation to see the operation of physical causes. The shepherd thinks the mountain on which he feeds his flock has always been there. The inhabitant of the valley cultivates the soil as his fathers did before him, and thinks the soil coeval with the valley or the mountain. But the scientific observer looks into the chain of physical events, sees the great changes that have been made, and foresees others that must follow from the continued operation of like natural causes. For, as Pythagoras taught 2,350 years ago, "the minerals and the rocks, the islands and the continents, the rivers and the seas, and all organic Nature, are perpetually changing; there is nothing stationary on earth." To note these changes—to decipher the records of this system of waste and reconstruction, to trace the physical history of the earth—is the province of GEOLOGY, which, the latest of all modern sciences, is that which has been modified most profoundly and most rapidly. In short, resting as it does on observation, it has been modified and transformed according to every series of facts recorded; but while many of the facts of geology admit of easy and obvious demonstration, it is far otherwise with the inferences which have been based upon them, which are mostly hypothetical, and in many instances from their very nature incapable of proof. Its applications are numerous and varied, projecting new and useful lights upon many other sciences. Here we ask of it the teachings which serve to explain the origin of the globe—the evidence it